

May 25 1998

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**1998 Biennial Regulatory Review –
Amendment of Part 97 of the Commission's
Amateur Service Rules.**

**Comments on 1998 Biennial Regulatory Review
Amendment of Part 97 of the Commission's Amateur Service Rules.
WT Docket No. 98-143**

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Comments:

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As I understand the current FCC's proposal, the Morse Code requirement would be reduced to 5 W.P.M. for privileges roughly equivalent to current General Class licensees and to 13 W.P.M. for the highest proposed class, the class roughly equivalent to the current Extra Class. I feel this is a mistake. To understand why I feel this way I think you have to understand a little about how the knowledge of radio communications theory evolves for typical Amateur Radio operator as he progress through the current, incentive licensing system.

Morse Code is an acquired taste. A little effort and discipline up front nets a huge payoff down the line. It takes time to master the skill but the effort is its own reward. Learning Morse Code helps one to acquire an intrinsic understanding of the physics of bandwidth and communications technology. In other words, it helps the user grasp concepts difficult to just learn in a book. Reducing the current requirements will severely hamper or may even eliminate this unique pathway to knowledge.

As an example, take the concept of digital versus analog communications technology. As a person begins to learn Morse Code he first hears individual dots and dashes and then has to piece together the pattern for each character in his head and then write it down. In my experience, this is at approximately the 5 W.P.M. level. This is at first tedious and can be very frustrating, just as beginning to speak a new language can be fraught with difficulty. Spurred on by the promise of more operating privileges, he presses on. The new Amateur continues to work to improve his Morse Code skill. By the time he reaches the next level of proficiency, which is at approximately the 13 W.P.M. mark, he no longer hears dots and dashes, but now hears entire characters themselves. He no longer has to hear the individual dots and dashes and piece them together in his head. He just hears the characters. (This experience is one of the most exhilarating in Amateur Radio and if you haven't experienced it yourself it's almost impossible to understand.) Spurred on the prospect of obtaining still more operating privileges, the Amateur that obtains the ability to copy at the 20 W.P.M. level begins to hear entire words and not just mere characters. In a very real sense, he has learned an entirely new language! And this language is special because it is a *digital* language.

Having spent time in the Morse Code/CW portions of the Amateur Radio bands and having gained experience operating HF voice/SSB in the voice portions of the band, the Amateur begins to appreciate the advantages of this new digital language he has learned. He realizes he can communicate using the Morse Code/CW, digital mode, farther, more accurately, more efficiently, and with considerably less power required than using the analog voice/SSB mode. True understanding of the advantages of digital communication over analog communication becomes readily apparent because he can *hear* the difference. This understanding is beyond that obtainable in a textbook. The Amateur has taught his own brain to act as a digital receiver and decode the first digital communications mode ever invented – Morse Code!

On the Internet it is the 1's and 0's and in the computer circuitry it is the on's and off's. With Morse code, the ones and zeros are analogous to the dots and the dashes. The Amateur immediately understands why a compact disc sounds better than a phonograph record, why it can store more music in a smaller space, more accurately, on smaller media, and with less error/deterioration. He understands why digital cellular phone technology is superior to analog. He understands the advantage and limitations of digital packet communications and on and on and on.

Reducing the Morse Code requirements for Amateur Radio licenses will significantly reduce the incentive to expend the initial effort which is the gateway to this unique pathway to knowledge. There is nothing quite like it in any other field of communication or engineering. Reducing the Morse Code requirements is analogous to allowing an elementary school student to learn basic arithmetic by using a calculator. It is difficult, albeit impossible, to fully appreciate more advanced mathematical concepts unless one learns how to perform the basic calculations by hand. Morse Code is the knowledge of basic arithmetic by hand and HF privileges are carrot to motivate Amateurs to stick with it and obtain the fundamentals. Continuing the analogy, the newer digital modes, i.e. packet radio, AMTOR, cellular technology etc. are the calculators, the new technology, which allows us to take the basics farther than ever before.

Conclusion:

I disagree with the statements made in paragraph 20-24 of the current FCC proposal Morse Code should be de-emphasized as a requirement for licensure because it is no longer a modern mode of communications technology. Amateur Radio operators enjoy a unique set of privileges and have consistently been on the forefront of new communications technology. As an example, much of the technology used in current cellular phone systems has been preceded by innovations made by Amateur Radio years before hand. Likewise, Amateur Radio Satellites have helped to advance satellite communications technologies. I believe that it is in part because of the unique knowledge and ability the Amateur Radio community possesses, obtained through the mastery of Morse Code, that have helped to foster many of these technological innovations. The mastering of Morse Code, although no longer a modern mode of communications technology, is the critically essential foundation for a true appreciation of the theory upon which more modern communications technology are derived from.

Therefore, I propose that the current three tier system of 5, 13, and 20 W.P.M. be maintained at the General, Advanced and Extra Class levels respectively (license classes as defined as per the proposal submitted by the American Radio Relay League) and ask that the Commission reconsider its proposed reduction of Morse Code requirements. This would insure that future Amateurs continue to benefit from the singular knowledge that comes with the process of mastering the Morse Code.